UNDERGROUND INJECTION CONTROL PROGRAM
WATER QUALITY DIVISION
WYOMING DEPARTMENT OF ENVIRONMENTAL QUALITY

GUIDANCE DOCUMENT NUMBER 2

APPROVAL FOR NEW WASTE STREAMS FOR DISPOSAL IN CLASS I INJECTION WELLS

May 6, 2003

THIS GUIDANCE DOCUMENT WAS PREPARED BY THE WATER QUALITY DIVISION OF THE WYOMING DEPARTMENT OF ENVIRONMENTAL QUALITY TO PROVIDE GUIDANCE FOR OPERATORS OF CLASS I INJECTION WELLS. THIS DOCUMENT IS MEANT TO EXPLAIN THE REQUIREMENTS FOR RECEIVING APPROVAL FOR THE INJECTION OF NON-HAZARDOUS INDUSTRIAL WASTE. IF THERE ARE ANY CONFLICTS BETWEEN THIS DOCUMENT AND THE REGULATIONS, THE REGULATIONS WILL PREVAIL.

Guidance Document #2
Waste Disposal in Class I Wells
Underground Injection Control Program

Section 1.0 Introduction

This document will address the questions "What types of waste can I legally inject?" and "How do I get approval to accept a new waste stream?" The question of whether a waste can be physically injected is not covered. Obviously, wastes which are solid objects cannot be injected into a disposal well.

In granting approval, the Water Quality Division does not usually consider the issue of whether a waste can actually be physically injected. Wastes which have a high percentage of suspended solids usually cannot be injected. Most operator's filter the waste prior to injection. Wastes with high suspended solids content will, at a minimum, plug up the filter. If injected without pre-filtration, wastes with high suspended solids will probably plug the perforations. In any case, the operator of a well is cautioned, do not depend on the Water Quality Division approval for evidence that the waste stream will actually inject. If your well becomes clogged with solids, you will have to work the well over, and dispose of the solids in accordance with applicable solid waste management requirements. Liquids from well workovers on class I wells must be reinjected.

Class I injection wells generally deal with relatively large volumes of waste. At the time of this writing, no class I injection well has ever accepted lots of waste of less than 220 pounds or 1/2 barrel. The most important assumption made in this document is that virtually any disposal will entail over 100 Kg of wastewater, and that the wastewater has not been generated until it is actually pumped out for disposal. 100 Kg of waste is only 220 pounds, 3.5 cubic feet, 26 gallons, or .5 barrels of waste. These small exemptions mean that almost every generator who is interested in disposal in a class I injection well will have to either be exempt from RCRA regulation or the waste will have to pass a hazardous waste screening. It is assumed that generators of less than 100 Kg per month (Conditionally Exempt Small Quantity Generators, CESQG) will find other methods of disposal, rather than underground injection. For this reason, no provision has been made in this document for allowing disposal of small quantities of hazardous waste from CESQG's.

Section 2.0 How do I, as an operator obtain approval for a new waste?

As the operator of a class I non-hazardous injection well, you will need to check your permit for the method of obtaining approval. Most permits allow additional sources of oilfield produced water with no approval needed. You should check your permit to see what analyses you may be required to have on file when you take new sources of oilfield produced water.

All permits require that you obtain approval for other waste sources other than oilfield produced water. You may obtain approval by either documenting that the waste is exempt from RCRA or by demonstrating by analyses that the waste is non-hazardous. You will be required to obtain analyses on all wastes. For exempt waste, the department may allow the results to be reported after the disposal has been completed. For non-exempt waste, the results will have to be submitted prior to obtaining approval for disposal. This guidance document is designed to help you understand the regulations governing new sources of waste, and the process for obtaining this approval.

Section 3.0 What is a NON-HAZARDOUS Industrial waste?

Industrial waste is characterized as either hazardous waste or non-hazardous waste by the federal Resource Conservation and Recovery Act (RCRA) in 40 CFR 261. There are two ways in which a waste can be considered a hazardous waste under RCRA, by LISTING or by CHARACTERISTIC. Waste may be shown to be non-hazardous either by its being exempt from RCRA regulation, or by its not being a listed waste ***and*** not having any characteristic which would make it a hazardous waste. All of this can be quite complicated. The reason for this guidance document is to help the operator of a class I injection well to understand the process which this department goes through in granting an approval for a new waste stream. Obviously, the operator will receive a faster approval if all of the required information is submitted with the request for disposal.

At the present time, there are no injection wells in Wyoming which are permitted to inject hazardous waste. If any operator of a class I injection well requests disposal of a hazardous waste, this department will not allow such waste to be disposed of.

Section 4.0 Exempt Waste

There are several major exemptions to RCRA. These are spelled out in 40 CFR 261.4, and various other documents. The major exemptions to RCRA include the Oil and Gas Exploration and Production Exemption, the Bevill Amendment exemptions, and Underground Storage Tank wastes exemptions. If you can document that the waste is exempt for one of these reasons, this department will not require that sample results be reported prior to injection. In that case, the approval will be based only on the exemption to RCRA. Of course, the regulations still require that the waste be "characterized" with analyses. This department will require that certain parameters be analyzed for and the results be submitted with the next quarterly report after the results are available.

4.1 The Oil and Gas Exploration and Production Exemption

The Oil and Gas Exploration and Production exemption is limited to wastes which are produced upstream from the first change in custody of the product. Under this principal, which comes directly from RCRA and not from any federal regulation, wastes are generally exempt as long as they are generated in the field by the operator or his contractors at some point up-stream from the point at which the operator sells his product to a third party. Thus, the same waste generated by an interstate oil or gas transmission facility may not be exempt, even though it would be exempt if generated by the operator of an oil or gas well.

The Resource Conservation and Recovery Act (RCRA), section 3001(b)(2)(A) of the 1980 amendments to RCRA sets up an exemption for the Oil and Gas Exploration and Production industry. The Environmental Protection Agency issued a "regulatory determination" on July 6, 1988 which defines which wastes are exempt from RCRA under this exemption. The following wastes were considered exempt for RCRA in all cases, upstream from the point of custody transfer:

Water produced along with oil and gas from any formation;

Drilling Fluids used during the drilling of any oil and gas well or the water supply wells on those locations;

Drill cuttings from the drilling of any oil and gas well or the water supply wells on the same locations;

Rig wash water;

Drilling fluid or cuttings from offshore operation which is hauled into Wyoming for disposal;

Geothermal production fluids;

Hydrogen sulfide abatement wastes from geothermal energy production;

Well completion, treatment and stimulation fluids;

Basic sediment and water and other tank bottoms from the storage facilities that hold crude oil, natural gas, gas condensate, or another exempt waste;

Accumulated materials such as hydrocarbons, solids, sand and emulsion from production separators, treating vessels, and production impoundments;

Pit sludges and contaminated bottoms from storage or disposal of exempt wastes;

Waste produced during any workover or abandonment of and oil or gas well or test hole;

Gas plant sweetening wastes for sulfur removal including amines, amine filter media, backwash, and molecular sieves and any wastes produced by a Bevon Stetford processing plant;

Gas plant dehydration wastes, including glycol filters, filter media, backwash, and molecular sieves;

Hydrogen sulfide removed from natural gas;

Cooling tower blowdown wastes on gas plant or other exempt sites;

Spent filters, filter media and backwash as long as the filter

itself is not hazardous waste;

Packing fluids;

Produced sand;

Pipe scale, hydrocarbon solids, hydrates, and other deposits removed from piping and equipment prior to transportation;

Pigging wastes from in field gathering lines, but not from interstate pipeline systems;

Wastes from subsurface gas storage and retrieval wastes;

Constituents removed from produced water prior before it is injected or otherwise disposed of;

Liquid hydrocarbons removed from the production stream but not from oil refining;

Gases from the production stream such as carbon dioxide and volatilized hydrocarbons;

Materials ejected from a producing well during the process known as blowdown;

Hydrocarbon bearing soil from a site which is otherwise exempt;

Waste crude oil from primary field operations and production; and

Light organics volatilized from exempt wastes in reserve pits or impoundments or production equipment;

Most of the above wastes may, under certain conditions, be liquids which are physically injectable. The following wastes are never exempt from RCRA, even if they are generated upstream from the point of custody transfer:

Any product which becomes a waste only because it is unused or unusable regardless of its original intended use;

Oil and Gas service company wastes, such as empty drums, drum rinsate, vacuum truck rinsate, sandblasting media, painting wastes, spent solvents, spilled chemicals and waste acids;

Vacuum truck rinsate and drum rinsate from trucks or drums transporting any waste which is subject to regulation under the federal Resource Conservation and Recovery Act;

Refinery wastes;

Liquid and solid wastes generated by crude oil and tank bottom reclaimers;

Used equipment lubrication oils;

Waste solvents;

Waste in transportation pipeline related pits;

Caustic or acid cleaners, regardless of their source;

Boiler cleaning wastes, regardless of their source;

Boiler refractory bricks, regardless of their use or source;

Boiler scrubber fluids, sludges and ash regardless of their source;

Incinerator ash, regardless of their source;

Laboratory wastes, including the wastes from portable laboratories set up on an oil location;

Sanitary wastes;

Pesticide wastes, regardless of their source;

Radioactive tracer wastes, regardless of their use or source; and

Drums, insulation, and miscellaneous solids;

Obviously, there are a multitude of wastes which are exempt under this provision to RCRA and a multitude which are not. The operator, in requesting permission to dispose of this waste should make the request specific, citing exactly which types of waste will be disposed of under the proposal. For exempt waste of this nature, this department will grant an approval and will require that periodic analyses be run for these wastes. The analyses required will be structured to characterize the waste for its hazardous constituents.

Please note that the above wastes which are not exempt may still be acceptable for injection. All that means is that the operator will have to show that these wastes are non-hazardous because they do not fail the characteristic tests and they are not listed wastes.

Some of the above wastes would not be physically injectable in any case. The operator will have to determine his willingness to accept any particular waste in addition to the legal requirements imposed by this department.

A typical approval letter will require that:

> "These wastes should be carried as a separate line item on the quarterly report covering the time when the disposal was made. These wastes are clearly exempt from RCRA regulation as hazardous waste. This exemption is spelled out in Section 3001(b)(2(A) of the 1980 Amendments to RCRA."

4.2 The Bevill Amendment Wastes

The Bevill Amendment exempts most wastes generated in the mining industry from regulation under RCRA. Wastes covered by the Bevill Amendment to RCRA are detailed in 40 CFR 261.4(b)(7). This section of 40 CFR 261 sets up two types of mining wastes which are exempt, benefication wastes and processing wastes. The two terms are almost interchangeable, except that processing usually refers to a process which produces a final end product, while benefication produces an intermediate product which must be further refined to be used.

4.2.1 Benefication Wastes

The first half of 40 CFR 261.4(b)(7) of the federal regulations states

that:

> "(b) *Solid wastes which are not hazardous wastes.* The following solid wastes are not hazardous wastes:
> (7) Solid waste from the extraction benefication, and processing of ores and minerals (including coal, phosphate rock and overburden from the mining of uranium ore), except as provided by § 266.112 of this chapter for facilities that burn or process hazardous waste. For purposes of § 261.4(b)(7), benefication of ores and minerals is restricted to the following activities: Crushing; grinding; washing; dissolution; crystallization; filtration; sorting; sizing; drying; sintering; pelletizing; briquetting; calcining to remove water and/or carbon dioxide; roasting, autoclaving, and/or chlorination in preparation for leaching (except where the roasting (and/or autoclaving and/or chlorination)/leaching sequence produces a final or intermediate product that does not undergo further benefication or processing); gravity concentration; magnetic separation; electrostatic separation; flotation; ion exchange; solvent extraction; electrowinning; precipitation; amalgamation; and heap, dump, vat, tank, and *in situ* leaching. ..."

Since the operator of a class I injection well will probably not be familiar with most of these terms, contact the Water Quality Division by telephone prior to attempting to obtain approval for these wastes. Most of the processes listed above will produce one or more liquid wastes which may be physically injectable.

There have been several wastes injected which meet the above definitions. The waste from Energy Brothers and Encoal facilities in Gillette both appear to meet the above definitions since they use only crushing, grinding, washing, drying, autoclaving and pelletizing operations.

4.2.2 Processing Wastes

40 CFR 261.4(b)(7) goes on to define a second set of wastes which are also exempt from RCRA. These wastes are processing wastes. It is important to note that these two lists are additions to each other. Most of the processing wastes will not be injectable in any case, because they are solid products. In the interest of space, the federal regulations quoted below have been excerpted to list only those wastes

which would be injectable under some circumstances. It is not necessary to show that the waste will meet both lists, but rather that it will meet the definitions in either list. 40 CFR 261.4(b)(7) continues with:

> "For the purpose of §261.4(b)(7), solid waste from the processing of ores and minerals includes only the following wastes:
>
> (vii) Process wastewater from coal gasification;
>
> (xi) Process wastewater from hydrofluoric acid production;
>
> (xv) Process wastewater from primary magnesium processing by the anhydrous process;
>
> (xvi) Process wastewater from phosphoric acid production;
>
> (v) Slag from primary elemental phosphorus production;"

All of the other processing wastes are solid products which would not be physically injectable. The only current example of wastes which may meet the above definitions are the wastes from the Department of Energy's site at Hoe Creek. In this case, it is unclear if the waste from the *in situ* gasification of coal is covered by (vii) above. The wastes which may be generated on that site consists of contaminated groundwater which exhibits the characteristic of toxicity. The question is, "Is that a process wastewater?"

4.3 Underground Storage Tank Wastes

Wastes generated in the removal of underground storage tanks, including: water and sludge found inside the tank, groundwater contaminated with petroleum, soils contaminated with petroleum, and water used to rinse the tanks is in a special class by itself. As of this date, these wastes are not technically exempt from RCRA regulation, but the implementation of RCRA regulation has been deferred. As the operator of a class I injection well, you can accept this type of waste as long as there is a provision for this waste in your permit or you have a letter from this department authorizing you to accept this waste.

On February 12, 1993 EPA published a proposed rule to turn the RCRA deferment for underground storage tanks into an exemption. The exemption, and the present deferment as well, cover only "Petroleum UST", that is underground storage tanks which store petroleum. Underground storage tanks which store acids, solvents, or waste products are not covered by the underground storage tank program and are not covered by the exemption.

4.4 **PITFALLS IN ACCEPTING EXEMPT WASTE**

All of the above wastes can be accepted with no RCRA concerns but only if certain precautions are observed:

1. Mixtures of exempt waste and non-exempt waste can retain the exemption only if it can be shown that the non-exempt waste was not a hazardous waste. If a company mixes a non-exempt waste with an exempt waste without first showing that the non-exempt waste is non-hazardous, the company will be required to perform analyses to show that the mixture is non-hazardous. In the event that the mixture fails, this department will not allow the mixture to be disposed of in a class I injection well as a non-hazardous waste. The important thing to remember is that many exempt wastes would be considered hazardous waste if it were not for the exemption. If a non-exempt waste must be mixed with an exempt waste, characterize the non-exempt waste before making the mixture. This rule applies regardless of which of the above exemptions are involved.

2. The petroleum exemption applies only to the point of custody transfer. A glycol containing waste from a plant which dehydrates pipeline gas from the interstate pipeline system prior to making some other product is probably not exempt.

3. You must be able to document the sources of all waste disposed of. Ideally, every lot of waste accepted will either be specifically named in the permit or will be tied to a specific authorization letter.

4. The petroleum exemption applies to waste products only. The same chemical, unused in the process, may be a listed hazardous

waste if a decision is made to dispose of that product rather than use it. The best policy is to completely expend all produces for their intended usage. Buy only that which you need for a particular job. If you need only 5 gallons and you buy a drum, the other 50 gallons may have to be treated as a hazardous waste. This is especially true of corrosion inhibitors and some reagents used in gas plants.

5.0 NON-EXEMPT WASTE

5.1 Hazardous waste by definition

RCRA defines certain wastes as hazardous waste by rule. These wastes are listed in Subpart D of 40 CFR 261.

40 CFR 261.31 lists certain wastes from non-specific sources as hazardous wastes. These wastes, known as F-listed wastes include many solvent wastes, many chemical manufacturing wastes and some wastes from petroleum refineries. 40 CFR 261.32 lists wastes from specific sources. These wastes, known as K-listed wastes, include primarily manufacturing process wastes.

Prior to requesting an authorization for disposal of wastes from any of the above processes, the operator should check 40 CFR 261 to determine if the wastes are listed. Companies which produce listed wastes should know if they are producing a listed waste. These companies are subject to RCRA manifesting requirements found in 40 CFR 262.20. No class I non-hazardous injection well is allowed to accept any waste which is subject to RCRA manifesting requirements. If you are asked to sign a RCRA manifest, this should tell you that you cannot take this waste.

40 CFR 261.33 contains a list of products which are listed wastes if they are discarded prior to use. This class includes discarded commercial chemicals, off-specification species, container residues, and spill residues. Acutely hazardous materials in this section are known as P-listed wastes. Hazardous materials in this section are known as U-listed wastes. These wastes include chemicals of a wide variety of types, uses, and sources. Prior to authorizing any disposal of a spent product, the department will consult these lists to determine if the product is a listed waste.

The listed wastes are possibly the simplest part of RCRA to comply with. Although the lists are lengthy, one must only look for a particular chemical or type of waste on the various tables. If the waste is found on any one of the tables in 40 CFR 261, the operator of a class I non-hazardous well cannot accept the waste for disposal.

5.2 Hazardous waste by characteristic

40 CFR 261.20 defines four characteristics which will cause a waste to be considered a hazardous waste. Those four characteristics are:

1. Ignitability. Materials which have a flash point of less than 140°F. The hazardous waste number for these wastes is D001.

2. Corrosivity. pH > 12.5 or ph < 2.0. The hazardous waste number for these wastes is D002.

3. Reactivity. These wastes react violently or create toxic gases. Reactive wastes are number D003.

4. Toxicity. A waste which fails the Toxicity Characteristic Leaching Procedure (TCLP).

5.3 TCLP Wastes

Wastes which fail the TCLP tests are perhaps the most common wastes which the operator of a class I non-hazardous well may encounter. The TCLP test is, by its nature, a leaching test to determine the amount of a chemical which will be leached from a solid. At the same time, for waters containing less than 5% solids (every physically injectable waste) the limits apply to the <u>total</u> concentration in the waste itself. The following table shows the TCLP limits for the chemicals which are subject to this test:

PARAMETER	Hazardous waste Number	RCRA LIMIT(1)
Arsenic	D004	5.0
Barium	D005	100.0

PARAMETER	Hazardous waste Number	RCRA LIMIT(1)
Cadmium	D006	1.0
Chromium	D007	5.0
Lead	D008	5.0
Mercury	DOO9	0.20
Selenium	D010	1.0
Silver	D011	5.0
Benzene	D018	0.50
Carbon Tetrachloride	D019	0.50
Chlordane	D020	0.03
Trichloroethene (TCE)	D040	0.50
Tetrachloroethene (PCE) (Perchloroethene)	D039	0.70
Chlorobenzene	D021	100.0
Chloroform	D022	6.0
○-Cresol	D023	200.0
m-Cresol	D024	200.0
ρ-Cresol	D025	200.0
Cresol	D026	200.0
2,4-D	D016	10.0
1,4-DichloroBenzene	D027	7.5
1,2-Dichloroethane (DCA)	D028	0.50
1,1-Dichloroethene (DCE)	D029	0.70
Methyl-Ethyl-Ketone (MEK) (Butanone)	D035	200.0

PARAMETER	Hazardous waste Number	RCRA LIMIT(1)
2,4-Dinitrotoluene	D030	0.13
Endrin	D012	0.02
Heptachlor (and its epoxide)	D031	.008
Hexachlorobenzene	D032	0.13
Hexachlorobutadiene	D033	0.5
Hexachloroethane	D034	3.0
Lindane	D013	0.4
Methoxychlor	D014	10.0
Nitrobenzene	D036	2.0
Pentachlorophenol	D037	100.0
Pyridine	D038	5.0
Toxaphene	D015	0.5
2,4,5-Trichlorophenol	D041	400.0
2,4,6-Trichlorophenol	D042	2.0
2,4,5-TP (Silvex)	D017	1.0
Vinyl Chloride	D043	0.2

(1) The RCRA Limit is the amount of a contaminant detected using a TCLP test which defines the lower limit of a Toxic Hazardous Waste. Any number present at a level higher than this limit indicates that the material tested is, in and of itself, a hazardous waste. All values presented on this table are in mg/l or parts per million.

Any waste which contains any single component at a level higher than the above table must be treated as a hazardous waste, or it may be treated on site, in the same vessel that it was accumulated in to remove the hazardous component. Wastes which may contain an F-Listed or K-Listed waste as a mixture with other wastes will be subject to the

land disposal restrictions found in Chapter XIII, Water Quality Rules and Regulations prior to disposal. The land disposal restrictions are found in Appendix A and Appendix B of Chapter XIII.

5.4 Sump Wastes

Sump wastes are liquids or sludges which accumulate in a floor sump in an area where industrial processes are done. The most common type of sump waste accumulates around automotive shops and car washes. The disposal of sump waste is the subject of an entire guidance document by the Solid and Hazardous Waste Division (Guideline 8). That guideline explains additional facts concerning sump waste disposal and the status of the generator under the RCRA program. It is recommended that the operator of a class I injection well obtain that guideline in addition to this guidance document. As a matter of policy in the Underground Injection Control Program, non-exempt waste has not been allowed to be disposed of in any class I well without analytical work to document that the waste is not a characteristic hazardous waste. For sump wastes from automotive, oil field service, car washes, or related shops, the following analyses are always required:

a. pH using EPA Method 150.1;

b. Cadmium using EPA 200 series methods;

c. Lead using EPA 200 series methods;

d. Chromium using EPA 200 series methods;

e. Purgeable Aromatic and Halogenated Hydrocarbons using EPA Method 624, EPA Method 601 and 602, or EPA Method 501.1 and 501.2. These tests cover all compounds listed in F001 through F005 (solvent wastes), and also Benzene, Trichloroethene, and Tetrachloroethene. These compounds are the most commonly found solvents in sump waste;

f. The EPA ignitability test (Flash Point)

In special cases, where information justifies them, the following tests may also be required:

a. Acid, Neutral and Base Extractable Hydrocarbons using EPA Method 625 are not required in most cases, but may be required if information shows that these contaminants may be present from a listed source;

b. Arsenic, Barium, Mercury, Silver and Selenium have been shown to be present in only rare circumstances. Unless there is a reason to suspect that these metals are present in the waste, analyses will not be required;

c. Pesticides and Herbicides may be required in those cases where the generator uses these substances in the facility. In most automotive shops, these analyses will not be required for disposal;

d. EPA Reactivity test will not be required unless there is some specific reason to suspect that the waste is highly reactive.

e. The test for Polychlorinated Biphenols (PCB's) is not usually required. In cases where sump waste has been generated by a facility which services electrical equipment, this test will be required unless it can be shown that only electrical equipment containing no PCB's is serviced.

6.0 Laboratories Capable of Analyzing Industrial Wastes

American Mobile Research
1605 Fairdale
Casper, Wyoming
(307) 234-9360

Core Laboratories, Inc.
420 West First Street
Casper, WY 82601
(307) 235-5741

Energy Laboratories, Inc.
1105 West First Street
Gillette, WY 82716
(307) 686-7175

Energy Laboratories, Inc.
P.O. Box 3258
Casper, WY 82602
(307) 235-0515

Hauck Analytical Services
613 Meadowlark Lane
Riverton, WY 82501
(307) 856-8183

Inberg-Miller Engineers, Inc.
124 East Main Street
Riverton, WY 82501
(307) 856-8136

Intermountain Laboratories, Inc.
1633 Terra Avenue
Sheridan, WY 83801
(307) 672-8945

Intermountain Laboratories, Inc.
1714 Phillips Circle
Gillette, WY 82716
(307) 682-8945

Northwest Analytical Laboratories
160 West North Street
Powell, WY 82435
(307) 754-5736

Wamco Laboratory, Inc.
P.O. Box 2953
Casper, WY 82602
(307) 266-3252

Western Environmental Services and Testing
6756 West Uranium Road
Casper, WY 82604
(307) 234-5511

Western Research Institute
Ninth and Lewis Avenue
Laramie, WY 82071
(307) 721-2011

Wyoming Analytical Laboratories
605 South Adams
Laramie, WY 82070
(307) 742-7995

Wyoming Department of Agriculture Laboratories
1174 Jackson
Laramie, WY 82070
(307) 742-2984

In choosing a laboratory, it is important to determine that the laboratory can actually do all of the tests required. In many cases, laboratories may be sub-contracting some or all of the work to others, and then adding a handling fee to the bill. Like all contracting, it may pay the operator to obtain bids from more than one laboratory.

In choosing a laboratory, it is important to choose one which will give quality results. The following paragraphs explain the EPA certification process for laboratories.

1. Of all the water quality programs, there is <u>formal</u> laboratory certification only under the drinking water program. Any laboratory that does analyses of drinking water for the purpose of compliance under the federal Safe Drinking Water Act (SDWA) <u>must</u> be certified. Most states have primacy under the SDWA and in those cases the states do the lab certification; however, since we are not a SDWA primacy state, EPA certifies the labs for analyses of Wyoming public water supplies. The great majority of labs

certified under SDWA are commercial operations. A lab does not have to be located in Wyoming to have certification to analyze Wyoming drinking water samples.

Be careful when a lab tells you they are "EPA certified for drinking water". There are a wide range of parameters for which you can be certified. Some labs are certified only for bacteriological analyses while some other labs are certified for bacteria and radionuclides and THM and volatile organics etc. etc. In other words you need to specify the parameter and ask whether that lab is EPA certified <u>for that particular parameter</u>.

2. There is no EPA lab certification for water pollution programs. However, there are a list of approved test <u>procedures</u> under the federal Clean Water Act (CWA). Any analysis done by any (commercial or government) lab for regulatory purposes under the CWA must use one of the approved methods for that parameter.

   However, if a lab receives federal funds and is doing CWA analyses, the lab must conform to EPA's quality assurance requirements. Basically this entails having a quality assurance/quality control (QA/QC) plan and participating in EPA's semi-annual performance evaluation program. This is the program under which EPA has "approved" the DEQ/WQD lab.

3. Finally, EPA contracts a fair amount of its work out to private commercial labs. To get on the list of "EPA approved contract labs", you have to participate in a program similar to that described above for government labs receiving EPA funds.

<u>7.0 Class I Injection Wells in Wyoming</u>

Since this guidance document may go out to persons who need to dispose of industrial waste, the following list is included of class I injection well operators in Wyoming. This list is accurate as of the date on the front cover of this document. Not all class I operators accept waste on a commercial basis. See the notes at the end of the

table. The location information in township, section and range is provided to enable a generator of industrial waste to determine which well is closest to the location of the waste.

NAME OF WELL NAME AND ADDRESS OF CONTACT	PERMIT NUMBER	TNSP	RNGE	SEC
Beaver Creek Disposal Wells * Devon Energy P.O Box 1400 Riverton, Wyoming 82501 (307) 856-8111	98-256	33	96	10
Carter Creek Disposal wells * Betsey Wagner ChevronTexaco U.S.A., Inc. P.O. Box 6004 Evanston, Wyoming 82930-6004 (307) 783-4526	89-449	19	120	36
Cortez Energy Disposal Well 1 (2) Tommie C. Wilson Cortez Energy, Inc. P.O. Box 630 Douglas, WY 82633 (307) 358-2205	95-030	36	72	24
Christensen Ranch Disposal Well * Cogema Mining Company 935 Pendell Blvd. P.O. Box 730 Mills, WY 82644 (307) 234-5019	97-407	44	76	7
Evergreen Production Services div. Schmid Oilfield Services, Inc. P.O. Box 37 LaBarge, WY 83123 (307) 386-2690	99-002	23	113	14

NAME OF WELL NAME AND ADDRESS OF CONTACT	PERMIT NUMBER	TNSP	RNGE	SEC
EOG Resources, Inc. P.O. Box 250 Big Piney, WY 83113 (307) 276-3331	02-372	29	113	35
Federal Hanagan 1-15 Water Dis. Well Mel's Water Service P.O. Box 37 Lysite, WY 82642 (307) 876-2289	97-210	36	91	15
Kenneth DeSelms #1 (2) Don Meng Wyoming Waste Water Disposal, LLC 2620 South Parker Road, STE 149 Aurora, Colorado 80014 (303) 745-1099	97-240	16	62	18
KFx Injection System* KFx Fuel Partners, L.P C/O Thermo Ecotek Corporation 81 Wyman Street Waltham, MA 02254-9046	95-277	51	71	32
Kissack WDW 31-25 (2) Doug Kissack Kissack Water and Oil Service P.O. Box 9 Rozet, WY 82727 (307) 682-9026	01-109	51	70	25
Cole Creek F41-27G (2) Thomas F. Stroock Alpha Development Corporation P.O. Box 2875 Casper, WY 82602 (307) 234-8925 (Well shut in)	97-239	35	77	27

NAME OF WELL NAME AND ADDRESS OF CONTACT	PERMIT NUMBER	TNSP	RNGE	SEC
Hamm #1 Injection Well [2] Doug Kissack Kissack Water and Oil Service P.O. Box 9 Rozet, WY 82727 (307) 682-9026	01-036	50	69	17
Horse Creek Injection Wells [2] Doug Kissack Kissack Water and Oil Service P.O. Box 9 Rozet, WY 82727 (307) 682-9026	01-337	47	68	8
Highland Uranium Injection Facility (Three Wells) Bill Kearney Power Resources, Inc. P.O. Box 1210 Glenrock, WY 82637 (307) 235-1628	*98-001	36	72	20
Whitney Canyon Disposal wells * Amoco Production Company P.O. Box 829 Evanston, Wyoming 82930 (307) 789-1700	96-361	17	119	18
Smith Ranch Injection System * Rio Algom Mining Company P.O. Box 1390 Glenrock, Wyoming 82637 (307) 358-3744	99-347	36	74	35
Coastal Chem Disposal wells * Barbara Cabot Coastal Chem, Inc. P.O. Box 1287 Cheyenne, WY 82003 (307) 634-5981	95-294	13	67	16

* These wells are dedicated to a particular industrial plant, and in general do not accept wastes on a commercial basis.

(2) These wells are permitted to accept oil field produced water and other non-hazardous industrial waste on a commercial basis.